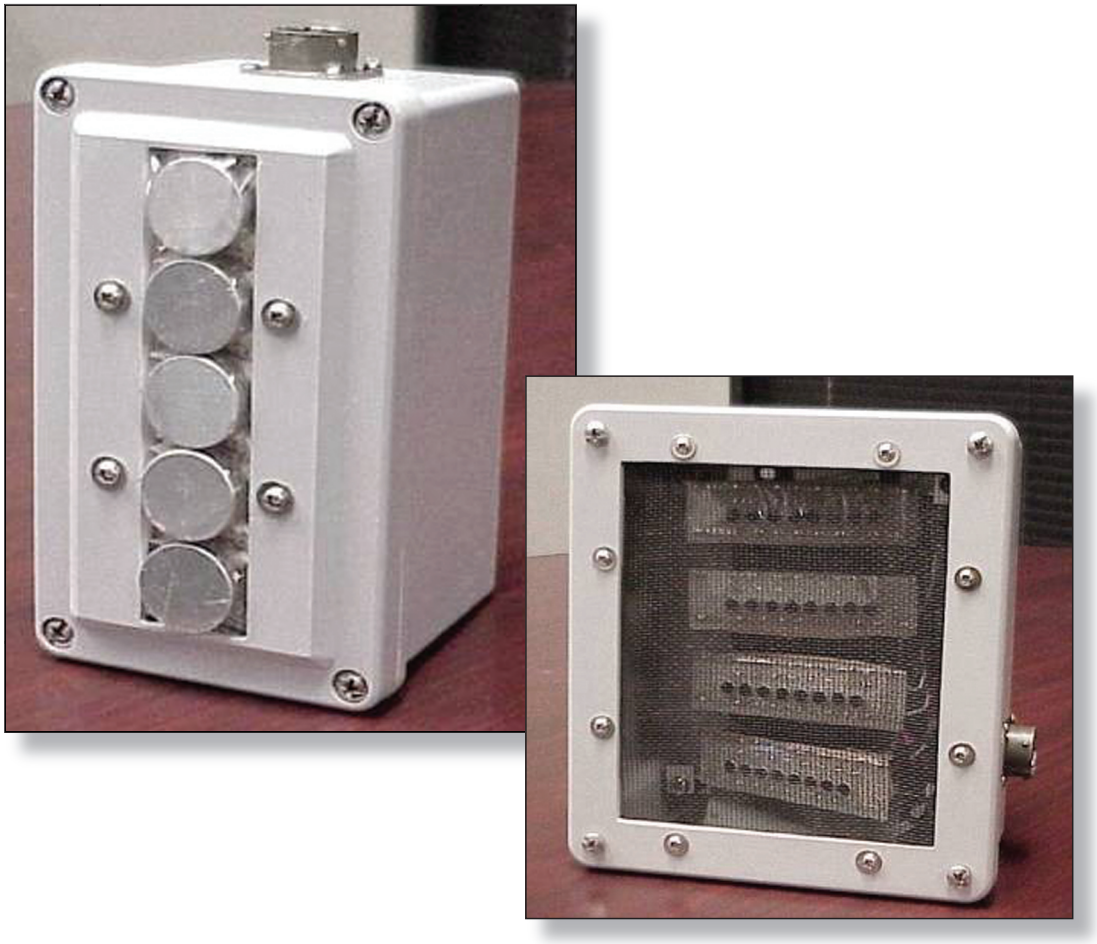
Air Force Research Laboratory|AFRL

Science and Technology for Tomorrow's Air and Space Force

Air Force SBIR/STTR

Success Story

ACTIVE ACOUSTIC DETECTOR MAXIMIZES PERIMETER PROTECTION AND SOLICITS SBIR PHASE III PROPOSAL



Current remote-sensor systems are used to detect threats in homeland defense technologies, environmental protection, forensic sciences, and commercial industry. These remote-sensor systems suffer from high false alarm rates and limited detection ranges. Adopting a multi-sensor approach that augments current sensors with an active acoustic detector will maximize security by reducing false alarms and detecting covert intruders.

Air Force Research Laboratory
Wright-Patterson AFB OH

Accomplishment

The Aural Displays and Bioacoustics Branch of the Human Effectiveness Directorate-sponsored Digital Systems Resources (DSR), Inc.'s Phase II Small Business Innovation Research (SBIR) program to develop active acoustic sonar to add to the existing sensor suite. DSR developed the active acoustic detector, which activates an alarm after picking up targets ranging from high velocity to slow and stealthy targets.

The current system provides covert, reliable detection of human intruders at tactically significant ranges, a drastic increase in range compared to seismic sensors. A field demonstration of the technology resulted in 100% intruder detection with limited false alarms. That success spurred the Electronics Systems Center to solicit a Phase III SBIR proposal from DSR.

Background

Modern remote-sensor security systems use several sensing technologies including video and infrared. DSR used its expertise from years of experience with underwater sonar technology to apply sonar signal processing techniques to this innovation.

Human Effectiveness
Technology Transfer

Additional information

To receive more information about this or other activities in the Air Force Research Laboratory, contact TECH CONNECT, AFRL/XPTC, (800) 203-6451 and you will be directed to the appropriate laboratory expert. (04-HE-08)